UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,951	11/03/2003	Bryan D. Kaushiva	PO-8000/MJD-02-31-PU	4329

157 7590 03/25/2005

BAYER MATERIAL SCIENCE LLC
100 BAYER ROAD
PITTSBURGH, PA 15205

EXAMINER	
KEYS, ROSALYND ANN	

ART UNIT	PAPER NUMBER
1621	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/699,951	KAUSHIVA, BRYAN D.	
	Examiner	Art Unit	
	Rosalynd Keys	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-46 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-46 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 11/3/03.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 1-46 are pending.

Claims 1-46 are rejected.

Information Disclosure Statement

2. The Examiner has considered the information disclosure statement (IDS) submitted on November 3, 2003.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification only provides support for using the basic catalyst in a concentration of less than 3 wt% (see page 12, lines 25-28). The specification does not provide support for using catalyst concentrations above 3 wt% as disclosed in claims 26 and 27.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 20 is indefinite because it does not describe the role of the ion exchange resin in the refining step.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 21 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Pazos (US 5,563,221).

Pazos teach the claimed polyol (column 4, line 23 to column 5, line 20).

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 21 and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Ehlers et al. (US 2004/0064001 A1).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Ehlers et al. teach the claimed polyol (see paragraphs 0081-0084).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pazos (US 5,563,221) in view of McDaniel et al. (US 6,077,978) and further in view of Longley et al. (US 4,110,268) or Nagata et al. (JP 51101099, English abstract).

Pazos teaches a process for making ethylene oxide-capped polyols comprising blending a first polyol containing a DMC catalyst with a second polyol containing a basic catalyst and then reacting the resulting polyol blend with ethylene oxide (see entire disclosure, in particular column 2, lines 23-50 and example 1). The DMC catalyst is disclosed as preferably being a zinc hexacyanocobaltate catalyst (see column 2, lines 66 and 67). The first polyol is any polyether polyol that can be made by DMC catalysts with preference being given to polyoxypropylene polyols and random copolymers of propylene oxide and ethylene oxide (see column 3, lines 14-17). The second polyol is prepared using an alkali metal hydroxide, such as potassium hydroxide (see column 3, lines 39-42). Generally it is preferred to use from about 10 to about 90 wt.% of the first polyol and from about 10 to about 90 wt.% of the second polyol in

the blend More preferably, the blend contains from about 30 to about 70 wt.% of the first polyol and from about 30 to about 70 wt% of the second polyol (see column 3, line 66 to column 4, line 4). The basic catalyst is present in the polyol blend in an amount within the range of about 0.05 to about 2 wt.%, preferably from about 0.1 to about 1.0 wt. % (see column 4, lines 8-11). Generally, the amount of EO used will be within the range of about 5 to about 30 wt.% based upon the amount of ethylene oxide-capped polyol (see column 4, lines 20-22). The polyol products produced typically have about 50% to about 95% primary hydroxyl groups, preferably from about 70% to about 90% (see column 4, lines 23-29). The ethoxylation temperature is typically in the range of about 50°C to about 220°C (see column 4, lines 30-40). Following ethoxylation, the EO-capped product is typically purified to remove catalyst residues. Any suitable means may be utilized including treatment with an ion-exchange resin (see column 4, lines 43-46). The polyol product can be used to make polyurethane foams, elastomers, sealants, coatings and adhesives (see column 5, lines 5-7).

Pazos differs from the instant invention in that Pazos do not disclose any particular method of making the DMC-catalyzed polyol, i.e., the first polyol. Pazos does however disclose that the first polyol can be made by methods commonly known in the art.

McDaniel et al. teach a method of preparing a DMC-catalyzed polyol wherein an acid is added to the starter compound in order to neutralize any basic impurities contained therein (see entire disclosure, in particular column 5, lines 3-24). Examples of the low molecular weight starter compounds include glycerin (glycerol), diglycerol, and polyglycerol (see column 5, lines 25-39 and column 7, lines 7-11). Suitable acids for neutralization include mineral acids, organic carboxylic acids, phosphonic acids, sulfonic acids, and other acids (see column 6, lines 3-24). Thus, although all the acids of claims 12-16 and 35-40 are not explicitly taught, their use is clearly suggested. Further, the skilled artisan would have been motivated to utilize

dodecylbenzenesulfonic acid, dodecyltoluene sulfonic acid or alkylnaphthalene sulfonic acids because of the advantages that the use of said acids offers (see English abstract of Nagata et al. and the abstract of Longley et al.) McDaniel et al. also teach that the order of addition of the starter and acid may be varied (see column 7, lines 21-67).

One having ordinary skill in the art at the time the invention was made would have been motivated to prepare the first polyether polyol of Pazos by the process of McDaniel et al., since the polyether polyol produced by the process of McDaniel et al. is treated with an acid in order to neutralize any basic impurities contained therein. Thus avoiding deactivation of the DMC catalyst during preparation of the polyether polyol of Pazos. One having ordinary skill in the art would have expected the polyether polyol of Pazos to contain basic impurities since polyether polyols are often prepared from starters which have been prepared through the use of strong bases (see column 5, lines 25-39 of McDaniel et al., which disclose that glycerin is generally prepared through the use of strong bases and example 1 of Pazos, which utilize a glycerin-started polyether polyol).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalynd Keys whose telephone number is 571-272-0639. The examiner can normally be reached on M and F 3:00-8:00 pm and T-Th 5:30-10:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rosalyn Keys
Primary Examiner
Art Unit 1621

March 19, 2005